



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university.



Questionnaire Design

Prof. Caroline Saunders

Dr. Peter Tait

Meike Guenther

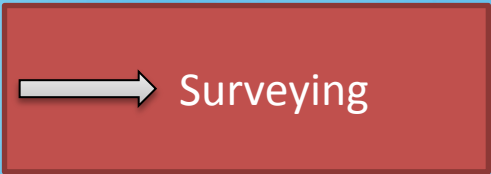
John Saunders

Content based on William et al. (2008) Business Research Methods, 8th Ed. South Western, Cengage Learning, USA.



**Lincoln
University**
Te Whare Wānaka o Aoraki
CHRISTCHURCH • NEW ZEALAND

Key Elements of Research

- Problem Statement
- Objective
- Hypothesis/ Question
- Methods  Surveying
- Analysis
- Results
- Discussion/ Conclusion/ Implications



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university

Setting the scene

- **Survey methodology** is the study of **sampling** of individuals from a **population** with the goal of making **statistical inference** about that population. A survey that measures an entire target population is called a **Census**.
- A **Survey** can refer to many different types or techniques of observation, but in context of survey sampling it most often involves a questionnaire.
- Surveys are conducted in numerous research fields including: marketing, psychology, political economy, sociology, economics and more.
- Surveys elicit information such as: preferences and attitudes (e.g. type of car), behaviour (e.g. how often you eat fruit), or factual information (e.g. income).



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



- **Survey sampling** is the process of selecting a sample of elements from a target population.
- The **representativeness** of the population is paramount in gaining useful results.
- **Non-response bias** – if those selected in the sample do not respond - observed value deviates from the population parameter due to differences between respondents and non-respondents.
- **Coverage bias** – sampling frame does not include all population elements – observed value deviates from the population parameter due to differences between covered and non-covered elements.
- Survey samples can be broadly divided into two types: **Probability** and **non-probability** samples. Probability samples require each element of a population to have a positive probability of being selected into the sample. Unresolved debate on importance of this issue.



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



- Choice of **Survey mode** is determined by numerous factors including: research objectives, budget, survey type, target population etc.
 - Telephone
 - Mail
 - Online
 - Face-to-face
 - Intercept
 - Mixed mode
- All modes can be affected by **Survey Mode Effects**, for example **Social desirability bias** is likely to be higher for telephone and face-to-face interviews and lower for mail and online modes.
- Whether this will be a problem needs to be assessed within the context of the survey content and research objectives.



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



Basic considerations

- Questionnaire Design is a crucial stage in the survey research process.
- A survey is only as good as the questions ask. Garbage in – garbage out!
- Creating a survey seems easy but is usually a result of a long process.
- Questions must meet the basic criteria of **relevance** and **accuracy**.



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



Decisions in Questionnaire Design

1. What should be asked?
2. How would questions be phrased?
3. In what sequence should the questions be arranged?
4. What survey layout will best serve the research objectives?
5. How should the survey be pretested? Does the survey need to be revised?



Survey components

- **Information Sheet** : research purpose, researcher affiliation, confidentiality, anonymity, inducements.
- **Framing questions**: set context, put respondents in the relevant frame of mind.
- **Specific questions**: the crux of the survey.
- **Demographics**.
- “Thank you for your participation”



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



What should be asked?

Survey Relevancy

- All information collected should address a research question helping the decision maker in solving the current problem.

Survey Accuracy

- Increasing the reliability and validity of respondent information requires that:
 - Surveys should use simple, understandable, unbiased, unambiguous and non-irritating words.
 - Survey design should facilitate, recall and motivate respondents to cooperate.
 - Proper question wording and sequencing to avoid confusion and biased answers.



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



**Lincoln
University**
Te Whare Wānaka o Aoraki
CHRISTCHURCH • NEW ZEALAND

Wording Questions: Open-ended

Open-ended response questions: pose some problem and ask respondents to answer in their own words.

Advantages:

- Are most beneficial in exploratory research, especially when the range of responses is not known.
- May reveal unanticipated reactions towards the product.
- Are good first questions because they allow respondents to warm up.

Disadvantages:

- High cost of administering open-ended questions.
- The possibility that interviewer bias will influence the response.
- Bias introduced by articulate individuals longer response.



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



Example: open – ended

- What things do you like most about your study?
- What comes to your mind when you look at this advertisement?



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



Wording Questions: Fixed-alternative

Closed – ended questions are questions in which respondents are given specific, limited –alternative responses and asked to choose the one closest to their standpoint.

Advantages:

- Require less interviewer skills.
- Take less time to answer.
- Are easier for respondents to answer.
- Provides comparability of answers.

Disadvantages:

- Lack of range in the response alternatives.
- Tendency of respondents to choose convenient alternative.



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



**Lincoln
University**
Te Whare Wānaka o Aoraki
CHRISTCHURCH • NEW ZEALAND

Types of fixed-alternative questions

- **Simple-dichotomy questions:** Choice of one of two alternatives (e.g. yes/no).
- **Determinant-choice questions:** Choice of one from among multiple alternative (e.g. A,B or C).
- **Frequency-determination question:** Asks for an answer about general frequency of occurrence (e.g. always, often, occasionally, or never).
- **Attitude rating question:** Required to measure an attitude or perception of a person, most common is Likert scale.
- **Checklist-question:** Allows respondent to provide multiple answers to a single questions by checking off items.




Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



Example: Frequency-determination


**Lincoln University**
Te Whare Wānaka o Aoraki
CHRISTCHURCH, NEW ZEALAND

How often do eat fresh fruit?

- ☐ Daily
- ☐ 2-3 times a week
- ☐ Weekly
- ☐ Fortnightly
- ☐ Monthly
- ☐ Less than once a month

>>

Example: Attitude rating scale/ Likert scale

**Lincoln University**
Te Whare Wānaka o Aoraki
CHRISTCHURCH, NEW ZEALAND

How important are the following aspects when making a decision on what products to buy at the supermarket?

	Very important	Somewhat important	Neither important nor unimportant	Not at all important	Don't know
Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impact on the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Price	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

>>

Question Sequencing

- **Order bias:** Bias caused by the influence of earlier questions in a questionnaire or by an answer's position in a set of answers.
- **Funnel technique:** Asking general questions before specific questions in order to obtain unbiased responses.
- **Filter questions:** Questions that screens out respondents who are not qualified to answer a second question.
- **Pivot questions:** A filter question used to determine which versions of a second question will be asked.



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



Guidelines for constructing questions

- Avoid complexity: the simpler, the better.
- Avoid leading and loaded questions.
- Avoid ambiguity: be as specific as possible.
- Avoid double-negative items.
- Avoid making assumptions.
- Avoid burdensome questions that may tax the respondents memory.
- Make certain questions generate variance.



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



Your task:

Survey development & administration

- Get together into four groups.
- Choose one of the four survey topics.
- Develop a survey with not more than 10 questions (incl. framing questions and demographics).
- Administer survey (i.e. get a minimum of five completed surveys).
- Analyse responses and present averages (descriptives) tomorrow (5 min presentation & 5 min discussion).



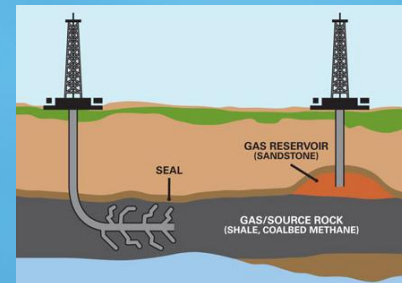
Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university



Topic 1: Non-renewable resource extraction

- Problem statement: Environmental damage, harms the 100% pure image vs. \$ & Jobs
- Objective: Assess the role of these types of industries in the future of New Zealand?



Topic 2: Tobacco Policy

- Problem statement: Costs are greater than taxes, Smoking causes public harm.
- Objective: Which consumer policies will help to reduce quantity smoked?



Topic 3: Canterbury Earthquakes

- Problem statement: Heritage buildings are costly to restore and money could be spent on other priorities.
- Objective: Which types of buildings should be chosen for rebuild and which types should be chosen for demolition?



Topic 4: Farm Animal Welfare

- Problem statement: Industrial food production can have consequences for animal welfare.
- Objective: Assess consumers level of support for different levels of animal welfare.



Agribusiness
and Economics
Research Unit

A Lincoln University Research Centre.
New Zealand's specialist land-based university

